WHAT IS CLAIMED:

1.   A method for testing a software emulator while executing the software emulator on a target machine architecture, comprising the steps of:

        executing a test program on a target machine architecture, whereby a test program produces a first output;

        executing an emulator on the target machine architecture; and the emulator executing the test program under emulation, whereby the test program produces a second output.

2.   The method of claim 1, further comprising the step of:

        calling a test program, whereby calling the test program triggers the executing the test program step.

3.   The method of claim 1, further comprising the step of:

        calling an emulator, whereby calling the emulator triggers the executing the emulator step.

4.   The method of claim 1, further comprising the step of:

        comparing the first output and the second output.

5.   The method of claim 1, further comprising the step of:

        determining if the first output and the second output are within a certain margin of variation of each other.

6.   The method of claim 1, wherein the main program includes an instruction that calls the test program whereby executing the test program step is triggered by the main program executing the test program call instruction.

7.   The method of claim 1, wherein the emulator includes a state vector.

8.   The method of claim 1, wherein executing the emulator comprises:

        calculating a target machine state at a point of return;

        saving the target machine state in a state vector;

        allocating additional resources to execute the emulator; and

        reading a next instruction according to the state vector.

9.   A computer readable medium comprising instructions for testing a software emulator while executing the software emulator on a target machine architecture, by:

executing a test program on a target machine architecture, whereby the test program produces a first output;

executing an emulator on the target machine architecture; and

the emulator executing the test program under emulation, whereby the test program produces a second output.

10.   The computer readable medium of claim 9, further comprising instructions for:

calling the test program, whereby the calling triggers the executing of the test program step.

11.   The computer readable medium of claim 9, further comprising instructions for:

calling the emulator, whereby calling the emulator triggers the executing emulator step.

12.   The computer readable medium of claim 9, further comprising instructions for:

comparing the first output and the second output.

13.   The computer readable medium of claim 9, further comprising instructions for:

determining if the first output and the second output are within a certain margin of variation of each other.

14.   The computer readable medium of claim 9 wherein the emulator includes a state vector.

15.   The computer readable medium of claim 9, further comprising instructions for:

calculating a state of target machine at a point of return;

saving the target machine's state in a state vector;

allocating additional resources of the target machine to execute the emulator; and

reading a next instruction according to the state vector.

16.   A computer readable medium containing a program that includes instructions for testing a software emulator while executing the software emulator on a target machine architecture, by:

executing a test program on a target machine architecture, whereby the test program produces a first output; and

executing an emulator on target machine architecture, whereby the emulator:

calls the test program, and

executes the test program under emulation, whereby the test program produces a second output.

17.   The computer readable medium of claim 16 wherein the main program further comprises instructions for:

calling the test program.

18.   The computer readable medium of claim 16, wherein the main program further comprises instructions for:

calling the emulator, wherein calling the emulator triggers executing of the emulator.

19.   The computer readable medium of claim 16, wherein the main program further comprises instructions for:

comparing the first output and the second output.

20.   The computer readable medium of claim 16, wherein the main program further comprises instructions for:

determining if the first output and the second output are within a certain margin of variation of each other.